State of Hawaii
DEPARTMENT OF LAND AND NATURAL RESOURCES
Division of Aquatic Resources
Honolulu, Hawaii 96813

May 27, 2016

Board of Land and Natural Resources
State of Hawaii
Honolulu, Hawaii

REQUEST FOR FINAL APPROVAL TO AMEND HAWAII ADMINISTRATIVE RULES (HAR) TITLE 13, CHAPTER 60.4, "WEST HAWAI'I REGIONAL FISHERY MANAGEMENT AREA, HAWAI'I," TO ESTABLISH THE KA'ŪPŪLEHU MARINE RESERVE TO ALLOW FOR THE RECOVERY OF NEARSHORE FISHERY STOCKS

Submitted for your consideration and final approval is a request to amend Hawaii Administrative Rules (HAR) Title 13, chapter 60.4, "West Hawai'i Regional Fishery Management Area, Hawai'i," to establish the Ka'ūpūlehu Marine Reserve.

The proposed amendments would provide a 10-year "no take" rest period for the existing Ka'ūpūlehu Fish Replenishment Area—with limited exceptions—to allow for the recovery of reef fish stocks prior to the implementation of a subsistence fishery management plan for the area. The proposal is consistent with the statutory mandate in Hawaii Revised Statutes (HRS) 188F-4(3) to establish a portion of the Fish Replenishment Areas where no fishing of reef-dwelling fish is allowed. The temporary nature of the closure reflects the Department's commitment to adaptive management, where management measures are evaluated and modified based on changing ecosystem conditions.

On October 24, 2014, the Board approved the proposed rule amendments for public hearing. On November 21, 2014, the Governor approved the proposed amendments for public hearing.

The Division of Aquatic Resources ("DAR") accepted public testimony on the proposed rules from January 10, 2016 to February 26, 2016 and held a public hearing in Kailua-Kona, Hawai'i on February 11, 2016. DAR received oral and written testimonies from 471 individuals and 13 organizations. DAR also received two petitions with signatures from 1,169 individuals. The majority of testimonies (oral, written, and petition) were in support of the proposal (62.5%). One individual supported the intent of the rules, but suggested revisions. One individual offered comments only. 37.4% of the testimonies opposed the proposal. The minutes from the public hearing and written testimonies are attached as **Exhibit 1**. A more detailed analysis of the public hearing and testimony, including DAR's responses to testimony in opposition to the proposal, is provided in the attached Analysis of Public Hearing and Testimony. See **Exhibit 2**.

Based on the comprehensive studies and stakeholder consultation that led to the development of the proposal, the ecological soundness of the marine reserve concept, and the testimony received during the chapter 91 public hearing process, DAR recommends the adoption of the rule amendments as proposed, with one minor non-substantive change. DAR has amended

subsection 5(f) to insert "June 30, 2026," a date approximately 10 years from adoption of these amendments, as the end of the "try wait" period. A Ramseyer draft of the proposed amendments is attached as **Exhibit 3**.

RECOMMENDATION:

"That the Board give final approval to amend Hawaii Administrative Rules chapter 13-60.4, West Hawai'i Regional Fishery Management Area, Hawai'i, to establish the Ka'ūpūlehu Marine Reserve."

Respectfully submitted,

BRUCE S. ANDERSON, Administrator
Division of Aquatic Resources

APPROVED FOR SUBMITTAL

SUZANNE D. CASE, Chairperson
Board of Land and Natural Resources

Attachments:

Exhibit 1 – Public Hearing Minutes
Exhibit 2 – Analysis of Public Hearing and Testimony
Exhibit 3 – Ramseyer Draft

Exhibit 1

Public Hearing Minutes
Amendments to Hawaii Administrative Rules
CHAPTER 13-60.4
West Hawai'i Regional Fishery Management Area, Hawai'i

Hearing Location: Kealakehe High School Cafeteria, Kailua-Kona, Hawaii
Hearing Date: February 11, 2016

I. Opening

A public hearing was held on February 11, 2016 in Kailua-Kona, Hawai'i. The meeting was called to order at 7:05 p.m. Dr. Bill Walsh, the West Hawaii Aquatic Biologist with the Division of Aquatic Resources, conducted the hearing. Also present were David Sakoda, DAR Marine Law Fellow; and John Kahiapo, Education Specialist with the Hilo DAR office.

II. Background

A. In 1998, the Hawai'i State Legislature established the West Hawai'i Regional Fishery Management Area (WHRFMA), codified in Hawaii Revised Statutes chapter 188F. The management objectives of chapter 188F are currently implemented by Hawaii Administrative Rules chapter 13-60.4. This chapter now includes fourteen Fish Replenishment Areas (FRAs) and Netting Restricted Areas (NRAs), and contains rules regulating aquarium fisheries, the taking of various species, SCUBA spearfishing, netting, and fish feeding. The Ka'ūpūlehu FRA is included as a regulated area within the WHRFMA. Aquarium fish collecting, fish feeding, and lay netting are currently prohibited along the 3.6 miles of coastline that are covered by the Ka'ūpūlehu FRA. In recent years, however, there has been growing concern regarding the observed depletion of nearshore fish stocks, which has been attributed in large part to increased fishing pressure facilitated by significantly expanded coastal access provided by a new highway and parking areas along the Ka'ūpūlehu coastline. The proposed amendments would re-designate the Ka'ūpūlehu Fish Replenishment Area as a marine reserve where the take of nearshore marine life will be prohibited for 10 years, with exceptions to allow for the continued harvest of pelagic and deep benthic species using specific fishing gear. The proposal is consistent with the statutory mandate in HRS 188F-4(3) to establish a portion of the Fish Replenishment Areas where no fishing of reef-dwelling fish is allowed.

B. Approvals to conduct this public hearing were obtained from the Board of Land and Natural Resources on October 24, 2014, the Small Business Regulatory Review Board on November 19, 2014, and Governor Abercrombie on November 21, 2014.

C. Copies of the administrative rules were made available for inspection at the public hearing.

III. Notice of public hearing

The Legal Notice of this public hearing was published in the January 10, 2016, Sunday issues of the Honolulu Star-Advertiser and the West Hawaii Today.

IV. Hearing procedures

The hearing officer explained the proposed rule amendments. Each person who wanted to testify was give 2 minutes to provide their testimony.

V. Testimonies

A. Kailua-Kona Public Hearing

170 filled out attendance sheet
70 oral testimonies received
63 expressed full support for the proposed rules
1 supported the intent of the rules, but recommended revisions
5 opposed the proposed rules
1 offered comments only

There was overwhelming support for the proposal at the public hearing. Many testimonies in support of the proposal came from kama'aina families with generational ties to the Ka'ūpūlehu area, who had witnessed first-hand the decline in ocean resources since the area began being developed. Other supporting testimony was provided by marine scientists who pointed to scientific studies that showed the decline in target fish species in the Ka'ūpūlehu area and the effectiveness of similar no take areas in other places to restore fish populations. Opposition testimony came primarily from fishermen from other parts of the island who fished in the area. These fishers pointed to pollution, runoff, invasive species, and other factors to blame for the decline in fish abundance. Some suggested that 10 years was too long, and that the area should be evaluated in 5 years.

B. Written/Email Testimony

DAR received 414 written/email testimonies.
290 (70%) were in full support of the rule amendments
124 (30%) were opposed

The majority (70%) of the written testimony was in support of the proposal. Supporting testimony came from local families with generational ties to

Ka'ūpūlehu, residents of neighboring communities and throughout the state who supported the community's efforts, marine scientists involved in conducting surveys of the area, and organizations such as The Nature Conservancy, Big Island Divers, Kamehameha Schools, the Puako Community Association, and the Office of Hawaiian Affairs.

There were a significant amount of written testimonies (124) opposing the proposal. 117 of these (94%) were identical form letters. 7 individuals submitted personalized testimony explaining their opposition to the proposal. Most cited other factors such as invasive species, sedimentation, and chemical contamination as causes of the decline in resources. One denied that resources were in decline. Some were in favor of other forms of management, such as better bag and size limits and more enforcement, but opposed to a complete closure. Some questioned the state's motives for the closure or the scientific justification for the proposal.

DAR also received two petitions. The petition in support of the proposal contained 680 signatures. The petition in opposition contained 489 signatures.

VI. Adjournment

The public hearing was adjourned at 9:48 P.M.

Exhibit 2

DAVID Y. IGE
GOVERNOR OF HAWAII

SUZANNE D. CASE
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

KEKOA KALUHIWA
FIRST DEPUTY

JEFFREY T. PEARSON, P.E.
DEPUTY DIRECTOR - WATER

AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
BUREAU OF CONVEYANCES
COMMISSION ON WATER RESOURCE MANAGEMENT
CONSERVATION AND COASTAL LANDS
CONSERVATION AND RESOURCES ENFORCEMENT
ENGINEERING
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
KAHOOLAWE ISLAND RESERVE COMMISSION
LAND
STATE PARKS

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
DIVISION OF AQUATIC RESOURCES
1151 PUNCHBOWL STREET, ROOM 330
HONOLULU, HAWAII 96813

Analysis of Public Hearing and Testimony on Proposed Amendments to HAR Ch. 13-60.4 to Establish the Ka‘ūpūlehu Marine Reserve

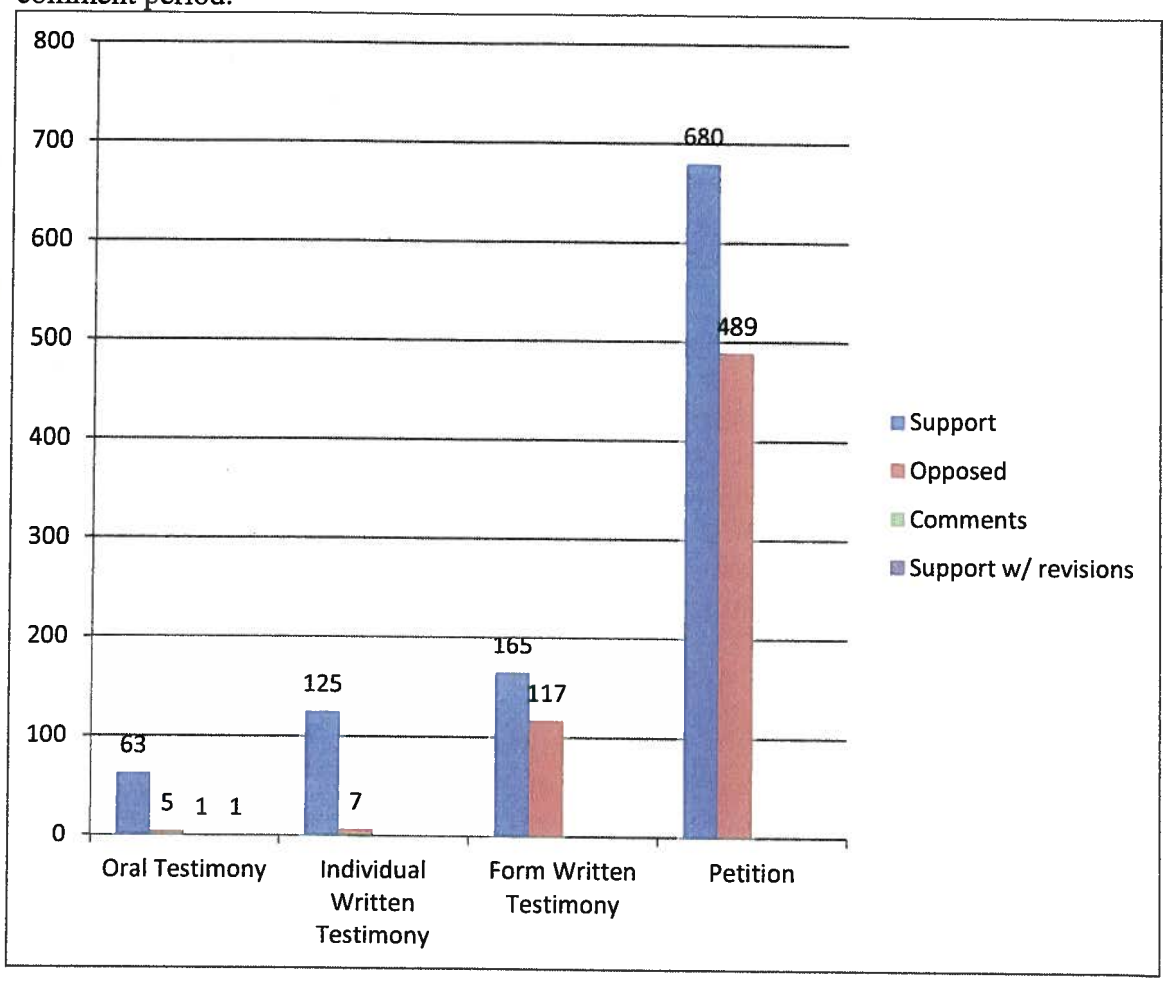
On February 11, 2016 the Division of Aquatic Resources (DAR) held a combined public informational meeting and formal public rulemaking hearing in Kailua-Kona, Hawai‘i to receive public comments and testimony on proposed amendments to Hawaii Administrative Rules (HAR) Title 13, chapter 60.4, "West Hawai‘i Regional Fishery Management Area, Hawai‘i," to establish the Ka‘ūpūlehu Marine Reserve as a 10-year "no take" area. DAR also accepted written (letter and email) testimony from January 10, 2016 to February 26, 2016. DAR received 70 oral testimonies (63 in full support, 1 in support with revisions, 1 providing comments only, 5 in opposition), 132 individual written testimonies (125 in support, 7 in opposition), 282 boilerplate written testimonies (165 in support, 117 in opposition), and 2 petitions containing a total of 1,169 names (680 in support, 489 in opposition). Out of all the testimonies submitted (oral, written, and petition), 1033 were in full support of the rules as proposed (62.5%); 1 individuals supported the intent of the rule, but proposed revisions; 618 were opposed (37.4%); and 1 offered comments only. See **Table 1** and **Figure 1**, below.

Among those who supported the proposal were the Office of Hawaiian Affairs, Kamehameha Schools, the West Hawaii Fishery Council, and a number of individuals with ancestral ties to Ka‘ūpūlehu. The following analysis summarizes the primary reasons offered in support of the proposal, describes the opposition to the proposal, and explains DAR's response to opposing testimony.

Table 1. Oral, written, and petition testimony received during public hearing and public comment period.

	Full Support	Support with Revisions	Opposed	Comments only	Total
Oral Testimony	63	1	5	1	**70**
Individual Letters	112	0	7	0	**119**
Organization Letters	13	0	0	0	**13**
Form (boilerplate) Letters	165	0	117	0	**282**
Petition	680	0	489	0	**1,169**
Total	**1,033**	**1**	**618**	**1**	**1,653**

Figure 1. Oral, written, and petition testimony received during public hearing and public comment period.



Testimony in Support

DAR received overwhelming support for the proposal both at the public hearing and through written letters and email. Many testimonies in support of the proposal came from kama'aina families with generational ties to the Ka'ūpūlehu area, who spoke of how abundant the area used to be before roads made it more accessible. Many individuals testified that they witnessed first-hand the decline in ocean resources. These testimonies emphasized the importance of making sacrifices now, while some resources still remained, to ensure the preservation of marine resources for future generations.

There were also a number of testimonies from individuals with science and resource management backgrounds, including scientists who have conducted research in the Ka'ūpūlehu area. These testimonies pointed to a measurable decline in target (food) fish species in the area relative to other non-target species. They also cited the proven effectiveness of the West Hawaii Fish Replenishment Areas to restore aquarium fish populations, as well as the success of similar no take areas in other places to restore reef fish populations. They also reminded the Department

of its statutory obligations, not only to establish a portion the West Hawaii FRAs as fish reserves where no fishing of reef-dwelling fish is allowed, but also to properly manage and protect the State's marine resources for the benefit of the public.

Testimony in Opposition

DAR received 5 oral testimonies in opposition to the proposed rules, along with 7 individual written letters, 117 identical form letters, and a petition signed by 489 individuals. Opposition testimony generally fit into one of 5 categories: 1) denial/doubt of need for a closure; 2) attributing decline in fish abundance to other factors; 3) suggestions for other ways to improve management/regulation; 4) legal challenges; and 5) hardship/impact to lifestyle. Each of these categories of testimony will be analyzed and responded to below.

1. Denial/doubt of need for a closure

Testimony in this category centered on the idea that either A) the resources are healthy, and there is no need for a closure to restore resources, B) there is already sufficient regulation and natural protection, or C) there is no scientific proof that the resources are in decline, and therefore the closure cannot be justified.

A. Resources are healthy

Testimony:

In October 2010, a study by the Western Pacific Regional Fishery Management Council noted that on average approximately 0.5% of the available fishery stocks were being harvested statewide, based on commercial catch reports. One of the authors, Paul Dalzell, noted that if unreported non-commercial catch were taken into consideration, and the harvest rate was multiplied by 10, that would mean 5% of the commonly fished species were being harvested. Sustainable harvest rates, Dalzell said, was somewhere between 10% to 20% of the stock. Generally speaking, Hawai'i is underfished.

Response:

The study referenced in the testimony, Western Pacific Region Reef Fish Trends, by Daniel Luck and Paul Dalzell (2010), was a report written for WESPAC. It has a number of methodological problems which substantially undermine the validity of their findings. The main issues are:

(i) Only commercial catch report data is used in the analysis. It is highly likely that these data substantially underestimate the actual commercial catch. For example, a Hawaii coral reef dealer study (Milne 2011) found that reported statewide commercial landings of parrotfishes (uhu) in 2011 were 72,297 lbs. However, based on in-person interviews with coral reef fish dealers, it was determined that in-state uhu purchases in 2011 were 191,247 lbs. Thus 118,950 lbs. of caught/sold uhu were not reported, an underestimation of 2.6X. The author further notes that a majority of the interviewed dealers believe that only 31-50% of coral reef fish landings are reported to the State.

Additionally, in their analysis Luck and Dalzell did not take into account non-commercial reef fish catch. A NOAA report utilizing Hawaii Marine Recreational Fishing Survey data (Williams and Ma 2013) found that the estimated non-commercial catch was > 2 to > 4 times the reported commercial catch for all of the families examined, other than Holcentridae (Soldier/Squirrelfish).

As Luck and Dalzell acknowledge, their analysis also did not include catch from the Hawaii aquarium fishery which takes hundreds of thousands of fish per year in the Main Hawaiian Islands (MHI). While not all these fishes are considered food fish, a number of them such as Kole (*Ctenochaetus strigosus*) are.

(ii) Even if total catch is multiplied by some arbitrary number such as suggested by Dalzell there still remains some issues which undermine the conclusion that total reported commercial catch is tiny relative to overall population size. The biomass estimates for reef fish population used in the study were provided by NOAA's Coral Reef Fish Ecosystem Program (CREP). They acknowledge that these population estimates are weak. Newer biomass estimates based on considerably more survey data from 2010 on, are quite a bit lower than the ones used in the 2010 report. Seven of 11 families were estimated to be from 23% to 58% less abundant than previously reported.

(iii) Luck and Dalzell categorize population and catch data only by family and not by species and thus non-targeted species are included in the analysis. For example, a substantial amount of surgeonfish biomass likely consists of the Brown Surgeonfish *Acanthurus nigrofuscus* which are very lightly fished. Impacts on some of the more heavily targeted species may thus be lost. Similarly, for Parrotfish there may be good numbers of Palenose Parrotfish (*Scarus psittacus*) but few Spectacled Parrotfish (*Chlorurus perspicillatus*) or Redlip Parrotfish (*Scarus rubroviolaceus*) or even large Bullethead Parrotfish (*Chlorurus spilurus*).

In contrast to the Luck and Dalzell report, a recent study of 19 exploited reef fish species in the MHI (Nadon et al 2015) found that ~ 47% of the targeted species analyzed may be overfished (Spawning Potential Ratio < 30%).

(iv) Lastly, the 2010 study's reef fish population estimates are presented on the scale of the whole Main Hawaiian Islands. Thus all of the relatively remote or inaccessible places (Niihau, Hamakua, etc…) are blended together with the more accessible and heavily fished locations where reef fish stocks are invariably more heavily impacted. Such is apparently the case for Ka'ūpūlehu. With the increasing evidence that there is a considerable separation of stocks within the MHI (thus good stocks in Niihau don't help much on Oahu) such analyses should be conducted on a more spatially explicit level which would better allow the determination of human impact at certain locations.

The 2010 study itself states that "taken as a whole, this study suggests that coral reef fishery resources in the Western Pacific Region may not be overexploited, but rather that localized depletion may be occurring in areas where fishing pressure is heavy." This observation is consistent with other site specific fish biomass studies that show that fish biomass at Ka'ūpūlehu is relatively low compared to other areas throughout the state (see Figure 9,

below). While fishery resources may be healthy on a statewide scale, the best available information suggests that target species are being depleted in the Ka'ūpūlehu area.

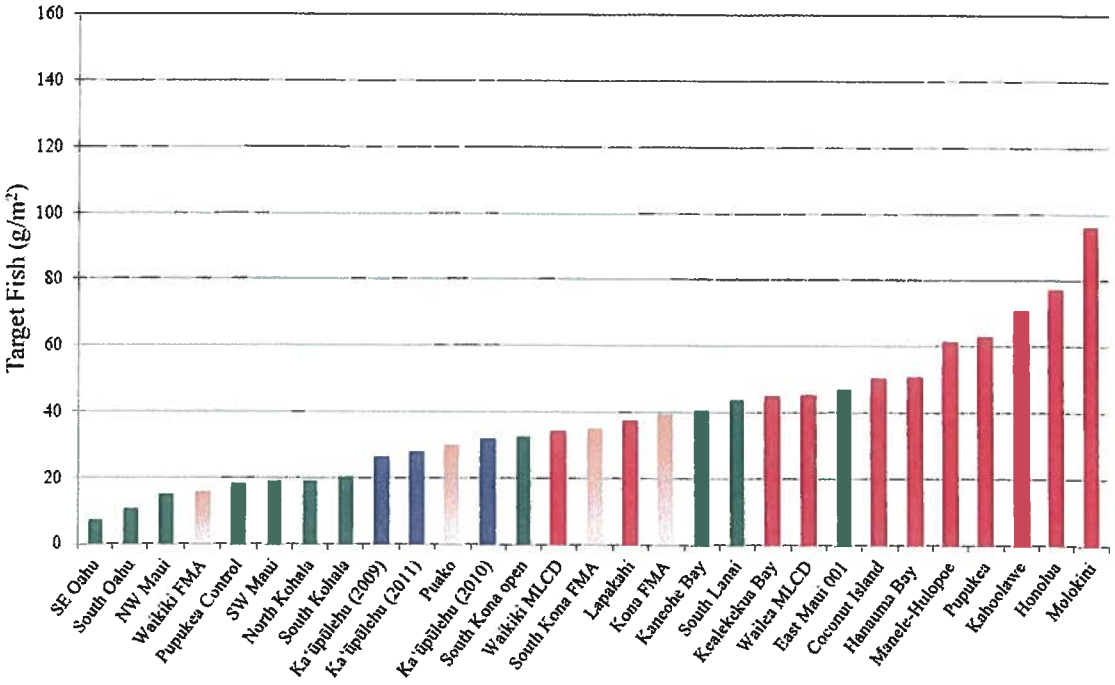


Figure 9. Target fish biomass at Ka'ūpūlehu (blue bars) and 26 other sites around the state of Hawai'i. Color of bars represents level of fisheries management occurring at the site: green=no additional fishing regulations; red=no take allowed; gradated red=limited take allowed. Data for sites other than Ka'ūpūlehu are from Dr. Alan Friedlander (USGS) and TNC.

Testimony:

I have been fishing in the area since before the Four Seasons or Kukio were built. I throw net and cast to gather food from the ocean. Since I started fishing in the area, I've always been able to catch what I needed to eat. From what I've seen, there is no justification for Kaupulehu to be closed for 10 years. For example I went fishing on the 19th of February 2016 and saw ulili manini in giant numbers. The ulili manini travel throughout the islands and are not present at Kaupulehu year round. The manini that are in Kaupulehu year round are different and tend to stay around a particular reef for most of the year. That day I also saw 9 uhu, a few ulua, large schools of palani, mullet and micos. The bottom line is this place has a lot of fish!... I want to stress that I have not seen a decrease in fish populations. I know how to look for fish and catch fish for my family. This is one of the areas I fish frequently. I do not see a need to close down an area that has an abundance of fish.

Response:

DAR does not deny the personal observations and experiences of this individual fisher. However, DAR takes into consideration the personal observations and experiences of all individuals who have submitted testimonies. The overwhelming majority of testimonies received, both in support of and in opposition to the proposed rules, indicate an observed overall decline in fish abundance in Ka'ūpūlehu. These personal observations are consistent with

findings from objective monitoring data that show a decline in abundance of targeted fish species in the area from 1992 to 2013 (see Figure 11, below).

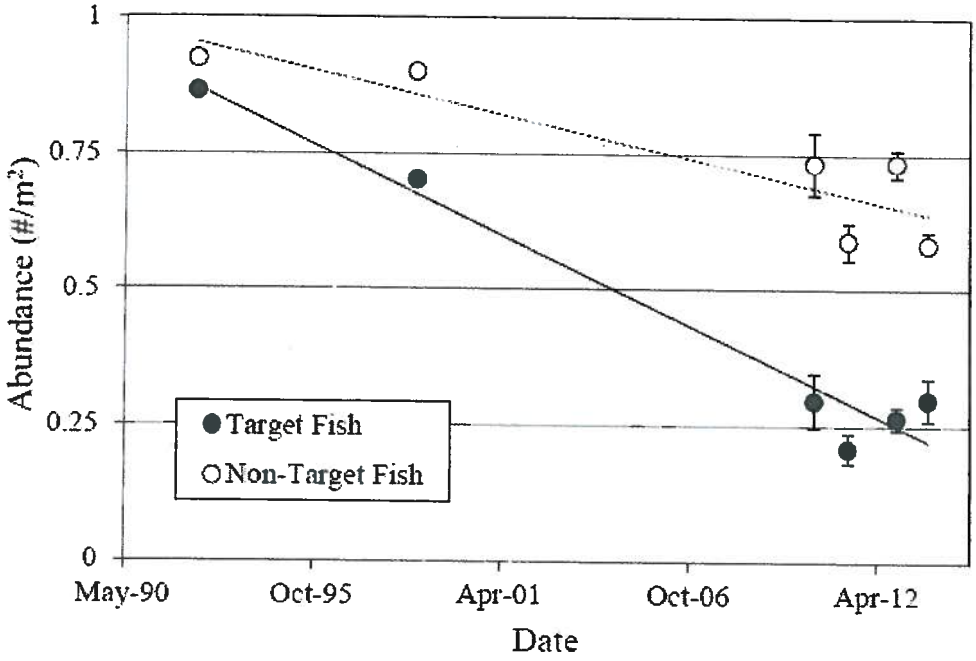


Figure 11. Change in target and non-target fish abundance at Ka'ūpūlehu between 1992 and 2012. Target fish are a select group of species prized by fishers and non-target species are species not generally fished in the state (see Williams 2008 for a list of target species). Data for 1992 and 1998 are from Stender (1999), 2010-2011 from Minton *et al.* (2014), and 2012-13 from this report.

Testimony:

The proposal must not change akule fishing. DLNR has not done stock assessment, nor have they conducted any scientific studies.... Akule is a meso-pelagic fish. Akule commercially harvested is the state's biggest fishery for our near shore fish. Akule is an important food source for many Hawaii residents.... Fishermen need bays and sand bottom to fish akule. Most are caught from 10-60.'

Response:

Akule are a transient species that occasionally school in protected bays. The testimony DAR received did not indicate how the proposed rule would actually impact akule fishing practices in the area. DAR followed up with the fisherman who submitted the testimony and learned that the fisherman was primarily concerned about the precedent this would set that could potentially impact akule fishing in other areas. DAR also spoke with a long-time commercial fisherman whose family used to net akule in the area. The fisherman noted that he used to net akule within the proposed boundaries about 3 times a year prior to the development of the area. However, according to that fisher, ever since the area started being developed in the 1980s, akule never returned to the area. In light of the foregoing, DAR does not anticipate that the proposed 10-year closure would have any actual impact on akule fishing. DAR considers each rulemaking on a case by case basis, so this would not necessarily set a precedent for other areas. For

example, when the Waimea-Pupukea MLCD was established, DAR carved out an exception to allow akule netting during certain months after consulting with commercial fishers.

B. Already sufficient Regulation and Protection

Testimony:

Most of Kona's near-shore waters already have a great deal of protection. The West Hawaii Regional Fishery Management Area encompasses more than 120 miles of coastline. Within that are 10 Fish Replenishment Areas and 6 Netting Restricted Areas, including Ka'ūpūlehu. Within those areas, and along the entire coastline, are a great deal of regulatory protections, some of which are unique to West Hawai'i. In addition to regulatory protections, there are large sections of coastline featuring natural barriers that physically restrict shoreline access. And there are broad private property boundaries that also prevent the general public from reaching many fishing grounds.

Response:

While Ka'ūpūlehu is designated as an FRA and NRA where aquarium collecting and lay net fishing are prohibited, it is still open to other methods of harvest such as spearfishing, hook and line, and throw netting. The decline in fish abundance suggests that current regulations have not been effective in preventing overfishing. Although some sections of the proposed area have limited land-based access due to natural barriers and private property, the nearshore waters are accessible by boat almost year round due to being on the calm leeward side of the island. Furthermore, with increased land development in the area, the Ka'ūpūlehu coastline will continue to become more and more accessible to shoreline fishers.

C. No scientific proof of decline

Testimony:

Without published and peer-reviewed scientific studies, it cannot be claimed that there has been a reduction in stock.

Response:

There is no requirement, legal or otherwise, that rules be based on published, peer-reviewed science. Administrative rules are developed based on the best available information, which includes scientific studies as well as lay testimony. The proposed Ka'ūpūlehu rule is based on a number of scientific studies, some of which have been published in peer-reviewed journals and some of which have not. Appendix C to the KMLAC Administrative Record contains a list of scientific studies that informed the proposed 10-year closure. In addition to these studies, the proposal is also based on the personal observations of kama'aina fishers who have witnessed firsthand the decline in fish abundance in the area.

2. Attributing decline in fish abundance to other factors

Testimony:

A number of testimonies raised questions about the causes of biological depletion and suggested that other factors are to blame for declining fish stocks. Some factors that were mentioned in testimonies include:

- *Climate change*
- *Global warming*
- *Chemical contamination, including sunscreen*
- *Toxic chemicals from golf courses*
- *Toxins from storm drains*
- *Chlorine-laden water from pools*
- *Nutrient pollution*
- *Injection wells*
- *Silt*
- *Habitat destruction*
- *Coastal development*
- *Dredging*
- *Urbanization*
- *Commercial activity*
- *Multiple users competing for the same resource*
- *Boats, tourists in the water, golfers and golf balls entering the ocean*
- *Disruption of streams and springs*
- *Invasive species: roi, ta'ape, to'au*
- *Turtles, which compete for limu, causing an imbalance in the area*
- *Management corruption*

Response:

There is no doubt that many factors contribute to declining resource health. However, a recent study (Minton et al 2015) showed that target fish biomass within the proposed area is well below that of areas completely closed to fishing, whereas non-target fish biomass within the area is similar to that of closed areas (see Figure 8, below; see also Figure 9, above). The study concluded that, "while other stressors may also be affecting fish populations, only fishing would selectively reduce the abundance of target species while not affecting non-target species." The fact that other no-take areas have significantly higher target fish biomass than fished areas suggests that the proposed 10-year closure will be effective in restoring target fish abundance in Ka'ūpūlehu.

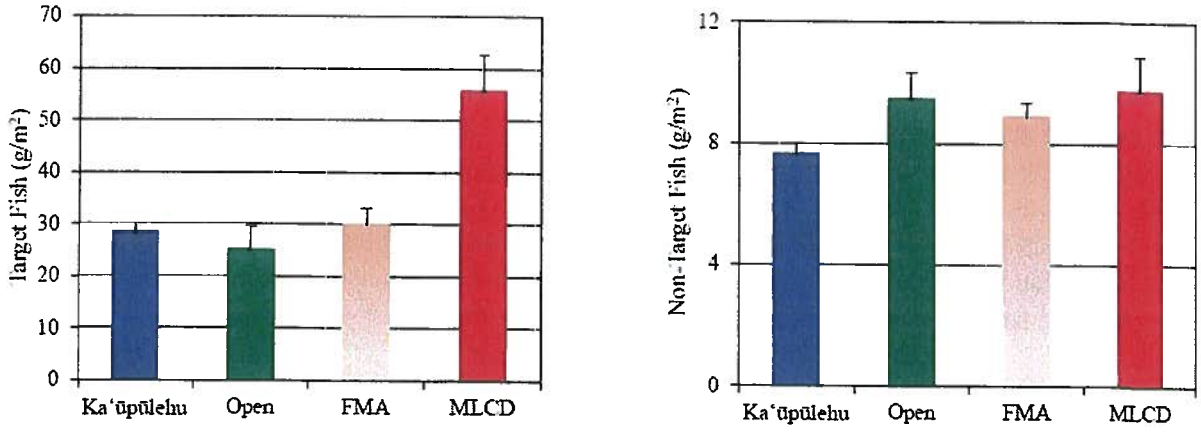


Figure 8. Biomass (g/m^2) of target (left) and non-target (right) fish at Ka'ūpūlehu, within areas open to fishing (n=11), within limited fishing FMAs (n=4), and within closed-to-fishing MLCDs (n=10). Note: different scales.

3. Suggestions for other ways to improve management/regulation

Testimony:

A number of testimonies opposed the 10-year closure, but offered suggestions for other ways to improve management and regulation, including:

- *Better enforcement*
- *More education*
- *Enhance resource abundance through hatcheries and artificial reefs*
- *Improve no-take seasons; implement a kapu system*
- *Improve size and bag limits*
- *Fishing licenses, user fees*
- *Ban that closes fishing every other year like Waikiki*
- *Don't make it 10 years. Come back in 5 years and check the place out*

Response:

Good fisheries management involves a multi-pronged approach. DLNR is currently seeking more financial and staff resources to improve enforcement presence throughout the state. DLNR is also partnering with communities through the Makai Watch program to educate communities on how to properly identify and report aquatic resource violations to DOCARE. DAR supports resource enhancement programs such as hatcheries and artificial reefs, but position cuts and lack of funding have crippled these programs for a number of years. Moreover, artificial reefs may not be very effective in the Ka'ūpūlehu area due to the limited amount of suitable substrate in the appropriate depth range.

DAR is in the process of reviewing its statewide fishing regulations, including updates to its bag/size/season limits, proposals for community-based subsistence fishing areas, and exploring concepts for recreational marine fishing licenses. These are separate processes that take time to study and implement. In the meantime, the proposed Marine Reserve will allow fish stocks to replenish and become abundant so that future regulations developed for the Ka'ūpūlehu area will provide sustainable fishing opportunities for all.

Finally, DAR is committed to regular monitoring and review of the ecosystem and fish populations in the area to study the effectiveness of the Marine Reserve. The 10-year time frame will provide valuable data on the effectiveness of no take marine reserves in West Hawaii and their usefulness as management tools elsewhere in the West Hawaii Fishery Management Area and the State.

4. Legal challenges

Testimony:

A few testimonies raised questions about the legality or constitutionality of the proposed rule amendments as they impact fishing rights and native Hawaiian gathering rights:

- *The proposal violates Article 12 section 7 of the Hawaii State Constitution (native Hawaiian gathering rights)*
- *Is "No Take" even legal, being that most fishers fall into a constitutionally protected class?*

- *Is there a compensation program for fishermen and gatherers?*
- *DLNR is allowing NGOs and special interest groups (Hualalai Hotel, Castle Foundation, TNC) to dictate rules and closure of State waters*

Response:

Article XII, Section 7 of the Hawaii State Constitution provides that "the State reaffirms and shall protect all rights, customarily and traditionally exercised for subsistence, cultural and religious purposes and possessed by ahupua'a tenants who are descendants of native Hawaiians who inhabited the Hawaiian Islands prior to 1778, subject to the right of the State to regulate such rights." DLNR recognizes and affirms the existence of traditional and customary native Hawaiian rights, and provides express protection for these rights within the WHRFMA rules. HAR §13-60.4-1(b) specifically provides: "Native Hawaiian traditional and customary rights with regard to marine resources for subsistence, cultural, and religious purposes are recognized. Claims for traditional and customary rights will be decided by appropriate agencies when a claims procedure is established."

Similarly, Article XI, Section 6 states in relevant part that "all fisheries in the sea waters of the State not included in any fish pond, artificial enclosure or state-licensed mariculture operation shall be free to the public, subject to vested rights and the right of the State to regulate the same." Not only does the Constitution clearly provide that the State has the right to regulate Hawaii's fisheries, but case law makes it clear that the State also has the responsibility to manage its marine resources as part of the public trust. This includes closing certain areas to fishing where appropriate. Because marine resources are public, the proposal does not constitute a taking of private property that would entitle fishers and gatherers to any form of compensation.

There are a number of "no take" areas in the State, all of which are established by DLNR statutes or regulations. The proposed Ka'ūpūlehu Marine Reserve is a DLNR administrative rule, not something dictated by special interest groups.

5. Hardship/Impact to lifestyle

Testimony:

A number of individuals testified that the proposal would have adverse impacts to their fishing and gathering practices. Some cited examples of actual direct impacts of the closure, while others raised concerns about potential impacts and the establishment of precedents for closures in other areas:

- *Will not be able to teach grandchildren the spots and how to gather fish from certain areas*
- *I'm 65. If we go 10 years, it may be longer than my lifetime*
- *Please consider the fishermen who enjoy the area and have a spiritual connection to the area*
- *Ka'ūpūlehu fishers will put pressure on adjacent areas*
- *Sets a precedent for other area closures*
- *If this ban passes, then it will never stop the next community from implementing a ban, and shoreline fishers will soon have no shoreline left to feed their families*
- *There is no certainty that DLNR or the community will have the integrity to come up with meaningful rules, so there is no promise to reconsider or reopen the reserve*

Response:

The proposed Ka'ūpūlehu Marine Reserve spans approximately 3.6 miles of coastline, which represents 0.3% of the coastline of Hawaii Island. The other 99.7% is open to some form of fishing, providing many fishing opportunities for the public. While a couple of testimonies opposed the closure because it would prevent them from fishing in the area and teaching younger fishers, there were many individuals with ancestral ties to the area who said they were willing to "try wait" for 10 years to allow the resources to replenish. The purpose of the Marine Reserve is to allow nearshore fish populations to become abundant to provide better fishing opportunities in the future.

Some testimony expressed concern about increased fishing pressure in adjacent areas as a result of the closure. Although fishing pressure in adjacent areas may increase, studies have shown that adjacent areas actually benefit from the spillover effect over time, such that the impact of increased fishing pressure is offset by greater abundance of fish.

As noted earlier, DAR establishes regulations and protected areas based on the specific management needs of an area. Successful management in one area may indeed indicate that similar regulations would be effective in other areas. However, each area and each proposed rule is considered on a case by case basis in furtherance of DAR's mission to manage, conserve, and restore the state's unique aquatic resources and ecosystems for present and future generations.

DAR is committed to working with partners to periodically monitor and review the effectiveness of the Ka'ūpūlehu Marine Reserve. Based on the resulting information, DAR will work with the community to come up with rules to allow for sustainable fishing practices.

Exhibit 3

Amendments to Chapter 13-60.4
Hawaii Administrative Rules

(date of adoption)

1. Section 13-60.4-2, Hawaii Administrative Rules, is amended to read as follows:

"§13-60.4-2 Geographical jurisdiction of chapter provisions. (a) The provisions of this chapter shall apply to the West Hawai'i regional fishery management area, bounded by the west coast of Hawai'i Island, from Ka Lae, Ka'ū (South Point) to 'Upolu Point, North Kohala, and extending from the upper reaches of the wash of the waves on shore, seaward to the limit of the State's police power and management authority.

(b) The following marine reserves, fish replenishment areas, and netting restricted areas shall be established within the boundaries of the West Hawai'i regional fishery management area (as depicted in the exhibit entitled ["Map of Fish Replenishment Area and Netting Restricted Area Boundaries", dated 9/21/11,] "Map of Marine Reserve, Fish Replenishment Area, and Netting Restricted Area Boundaries", dated 12/12/12, located at the end of this chapter):

(1) Ka'ūpūlehu marine reserve, identified on shore to the north by the northern boundary of the Ka'ūpūlehu ahupua'a and to the south by the southern side of Kikaua Point (south of Kūki'o Bay);

[(1)] (2) North Kohala fish replenishment area, identified on shore to the north by Kamilo Gulch and to the south by the Kawaihae Lighthouse;

[(2)] (3) Puakō-'Anaeho'omalu fish replenishment area, identified on shore to the north by the southern end of the Puakō Bay and Puakō Reef fisheries management area and to the south by the southern side of 'Anaeho'omalu Bay (Kapalaoa);

[(3) Ka‘ūpūlehu fish replenishment area, identified on shore to the north by the northern boundary of the Ka‘ūpūlehu ahupua‘a and to the south by the southern side of Kikaua Point (south of Kūki‘o Bay);]

(4) Kaloko-Honokōhau fish replenishment area, identified on shore to the north by the southern boundary of Wāwāloli Zone (a Kona Coast fisheries management area defined in section 13-58-2) at Wawahiwa‘a Point and to the south by Noio Point;

(5) Kailua-Keauhou fish replenishment area, identified on shore to the north by the southern boundary of Kailua Bay Zone, Kona Coast fisheries management area defined in section 13-58-2, and to the south by the northern boundary of the Keauhou Bay fisheries management area defined in section 13-57-1;

(6) Red Hill fish replenishment area, identified on shore to the north at Nenue Point and to the south by Keawakāheka Point;

(7) Nāpo‘opo‘o-Hōnaunau fish replenishment area, identified on shore to the north by the southern boundary of Kealakekua Bay marine life conservation district (Manini Beach Point) and to the south by the southern boundary of Pu‘uhonua o Hōnaunau (Ki‘ilae);

(8) Ho‘okena fish replenishment area, identified on shore to the north by Loa Point and to the south by Ka‘ū Loa Point;

(9) Ka‘ohe Beach fish replenishment area (Pebble Beach), identified on shore to the north by signage south of Ka‘ū Loa Point, and to the south by signage north of ‘Au‘au Point;

(10) Miloli‘i fish replenishment area, identified on shore to the north by Makahiki Point and to the south by Kāki‘o Point;

(11) Kikaua Point-Mākole‘ā Point netting restricted area, identified on shore to the north by Kikaua Point (Kalae o Kikaua) and

to the south by Mākole'ā Point (near Kekaha Kai State Park);

(12) Nenue Point-Kealakekua Bay netting restricted area, identified on shore to the north by the northern boundary of the Red Hill fish replenishment area and to the south by the northern boundary of the Kealakekua Bay marine life conservation district;

(13) Hanamalo Point-Kanewa'a Point netting restricted area, identified on shore to the north by Hanamalo Point, inclusive of Okoe Bay and Kapu'a Bay, and to the south by Kanewa'a Point, South Kona; and

(14) Kanonone-Kalīpoa netting restricted area, identified on shore to the north by Kanonone, inclusive of Pōhue Bay, Kahakahakea, and identified to the south by Kalīpoa, Ka'ū.

Unless otherwise described, any area described in this chapter shall be described by four reference points identified by their latitude and longitude coordinates, as provided in the tables located at the end of this chapter entitled ["Table of Reference Coordinates to Fish Replenishment Area Boundaries", dated 9/21/11,] "Table of Reference Coordinates to Marine Reserve and Fish Replenishment Area Boundaries", dated 12/12/12, and ["Table of Reference Coordinates to Netting Restricted Area Boundaries", dated 9/21/11,] "Table of Reference Coordinates to Netting Restricted Area Boundaries", dated 12/12/12, and as may be further indicated by signage on or about the shoreline. The four points shall be identified as the landward northern point, the landward southern point, the seaward northern point, and the seaward southern point. The landward boundary for each of these areas shall be an imaginary line drawn along the highest wash of the waves between the landward northern point and the landward southern point. Should there be a stream or river flowing into the ocean, the landward boundary shall be an imaginary

straight line drawn between the shoreline on either side of the stream or river, as if the stream or river was not there. Imaginary straight lines drawn through the landward and seaward northern points, and through the landward and seaward southern points, shall constitute the northern and southern boundary lines of each area. The seaward boundary of each area shall be determined by an imaginary line drawn along the one hundred fathom (six hundred feet) depth contour, between the intersection of the one hundred fathom depth contour and the northern and southern boundary lines. Seaward GPS reference points are for guidelines and the one hundred fathom depth contour otherwise controls the seaward boundary. Any area designated in this chapter shall include the submerged lands and overlying waters within these four boundaries.

(c) The following areas, designated and subject to additional regulations in other chapters, shall also be considered and regulated as part of the West Hawai‘i regional fishery management area:

(1) Lapakahi marine life conservation district, as described in chapter 13-33;
(2) Kawaihae Harbor fisheries management area, as described in chapter 13-55;
(3) Wailea Bay marine life conservation district, as described in chapter 13-35;
(4) Old Kona Airport marine life conservation district, as described in chapter 13-37;
(5) Kealakekua Bay marine life conservation district, as described in chapter 13-29;
(6) Puakō Bay and Puakō Reef fisheries management area, as described in chapter 13-54;
(7) Kīholo Bay fisheries management area, as described in chapter 13-60;
(8) Kailua Bay fisheries management area, as described in chapter 13-52;
(9) Keauhou Bay fisheries management area, as described in chapter 13-57;
(10) Kona Coast fisheries management area, as described in chapter 13-58;

Except for the area encompassed by the Kawaihae Harbor fisheries management area, Kawaihae commercial harbor shall not be regulated as part of the West Hawai'i regional fishery management area.

(d) Nothing in this chapter shall be construed as allowing within the West Hawai'i regional fishery management area any activity otherwise prohibited by law or rules adopted by the department of land and natural resource or any other department of the State." [Eff 12/26/13, am] (Auth: HRS §§187A-5, 188-53, 188F-6, 190-3) (Imp: HRS §§187A-5, 188-53, 188F-2, 188F-3, 188F-4, 188F-6, 190-3)

2. Section 13-60.4-3, Hawaii Administrative Rules, is amended by adding a new definition to read as follows:

""Deploy" means to place the specified gear in the water, in whole or in part."

3. Section 13-60.4-3, Hawaii Administrative Rules, is amended by adding a new definition to read as follows:

""Fishing gear" means any net, spear, rod, reel, hook-and-line, slurp gun, or any other equipment or gear adapted, designed, or commonly used to take or capture aquatic life."

4. Section 13-60.4-3, Hawaii Administrative Rules, is amended by adding a new definition to read as follows:

""Hook-and-line" means a fishing line to which one or more hooks or other tackle are attached. A hook-and-line may include a fishing rod or reel or both to deploy and retrieve the line."

5. Section 13-60.4-3, Hawaii Administrative Rules, is amended by adding a new definition to read as follows:

""Kona crab net" means a mesh net encircled by a rigid frame no more than three feet in length in any direction."

6. Section 13-60.4-3, Hawaii Administrative Rules, is amended by adding a new definition to read as follows:

""Marine reserve" means an area where any and all extraction of reef-related marine life, either alive or dead, or any portion of the reef structure, including coral, rocks, plants, algae, sand, shells, or any feature of the natural reef, shall be prohibited."

7. Section 13-60.4-5, Hawaii Administrative Rules, is amended to read as follows:

"§13-60.4-5 Activities prohibited within selected areas. (a) No person may engage in fish feeding while within any of the marine reserves, fish replenishment areas, or netting restricted areas described in section 13-60.4-2(b) or any of the other areas listed in section 13-60.4-2(c).

(b) While within the fish replenishment areas described in section [13-60.4-2(b)(1) to (10),] 13-60.4-2(b)(2) to (10), or while within any of the areas listed in section 13-60.4-2(c) other than the Kīholo Bay fisheries management area, no person may:

(1) Collect aquatic life for aquarium purposes; or

(2) Possess any aquarium collecting gear, or take or possess any specimen of aquatic life for aquarium purposes, except that aquarium collecting gear or aquatic life collected for aquarium purposes may be possessed while onboard a vessel in active transit through the areas, provided that no collecting gear is in the water during the transit. Boats that are adrift, anchored, or moored are not considered to be in active transit.

(c) No person may lay net fish while within the following areas, as described in section 13-60.4-2(b) and in the tables located at the end of this chapter entitled ["Table of Reference Coordinates to Fish Replenishment Area Boundaries", dated 9/21/11,] "Table of Reference Coordinates to Marine Reserve and Fish Replenishment Area Boundaries", dated 12/12/12, and ["Table of Reference Coordinates to Netting Restricted Area Boundaries", dated 9/21/11:] "Table of Reference Coordinates to Netting Restricted Area Boundaries", dated 12/12/12:

(1) Puakō-ʻAnaehoʻomalu fish replenishment area;

[(2) Kaʻūpūlehu fish replenishment area;

(3)] (2) Kikaua Point-Mākoleʻā netting restricted area (Kekaha Kai State Park);

[(4)] (3) Nenue Point(Red Hill fish replenishment area)-Kealakekua Bay netting restricted area;

[(5)] (4) Hanamalo Point-Kanewaʻa Point netting restricted area;

[(6)] (5) Kanonohe-Kalīpoa netting restricted area; and

[(7)] (6) Kaloko-Honokōhau fish replenishment area, except that a person may lay net fish in the Kaloko-Honokōhau fish replenishment area using only a locally-constructed, handmade lay net of natural fibers, that is registered and used in compliance with section 13-60.4-6.

(d) Except as provided in subsection (e), and subject to all other applicable laws, while within the Kaʻūpūlehu marine reserve no person may:

(1) Take or attempt to take any specimen of aquatic life, provided that the following species may be taken by hook-and-line seaward of the twenty fathom (120 feet) depth contour: *Pristipomoides filamentosus* (ʻōpakapaka), *Pristipomoides sieboldii* (kalekale), *Aphareus rutilans* (lehi), *Pristipomoides zonatus* (gindai), *Etelis coruscans* (onaga), *Etelis carbunculus* (ehu), *Epinephelus quernus* (hāpuʻupuʻu), *Aprion*

virescens (uku), *Lutjanus kasmira* (taʻape), *Cephalopholis argus* (roi), *Lutjanus fulvus* (toau), *Iniistius pavo* (nabeta), *Katsuwonus pelamis* (aku), *Thunnus spp.* (ahi and tombo), Family Istiophoridae (aʻu), *Acanthocybium solandri* (ono), *Coryphaena spp.* (mahimahi); and provided further that *Ranina ranina* (kona crab) may be taken by kona crab nets only, while seaward of the twenty fathom (120 feet) depth contour;

(2) Possess any specimen of marine life other than the species listed in subsection (d)(1) above;

(3) Possess or use any fishing gear other than hook-and-line or kona crab nets or both; or

(4) Deploy any fishing gear (including hook-and-line or kona crab nets) shoreward of the twenty fathom (120 feet) depth contour.

(e) The department may issue permits in accordance with sections 187A-6 and 188-53, Hawaii Revised Statutes, for the take of non-native or invasive species of fish and invasive algae from the Kaʻūpūlehu Marine Reserve.

(f) Subsections (d) and (e) of this section shall be effective until June 30, 2026, or until the effective date of rules implementing a comprehensive fisheries management plan as developed by the department in consultation with the Kaʻūpūlehu community and other interested parties, whichever occurs later." [Eff 12/26/13, am] (Auth: HRS §§187A-5, 188-53, 188F-6, 190-3) (Imp: HRS §§187A-5, 188-53, 188F-6, 190-3)

8. Material, except source notes, to be repealed is bracketed. New material is underscored.

9. Additions to update source notes to reflect these amendments are not underscored.

10. These amendments to chapter 13-60.4, Hawaii Administrative Rules, shall take effect ten days after filing with the Office of the Lieutenant Governor.

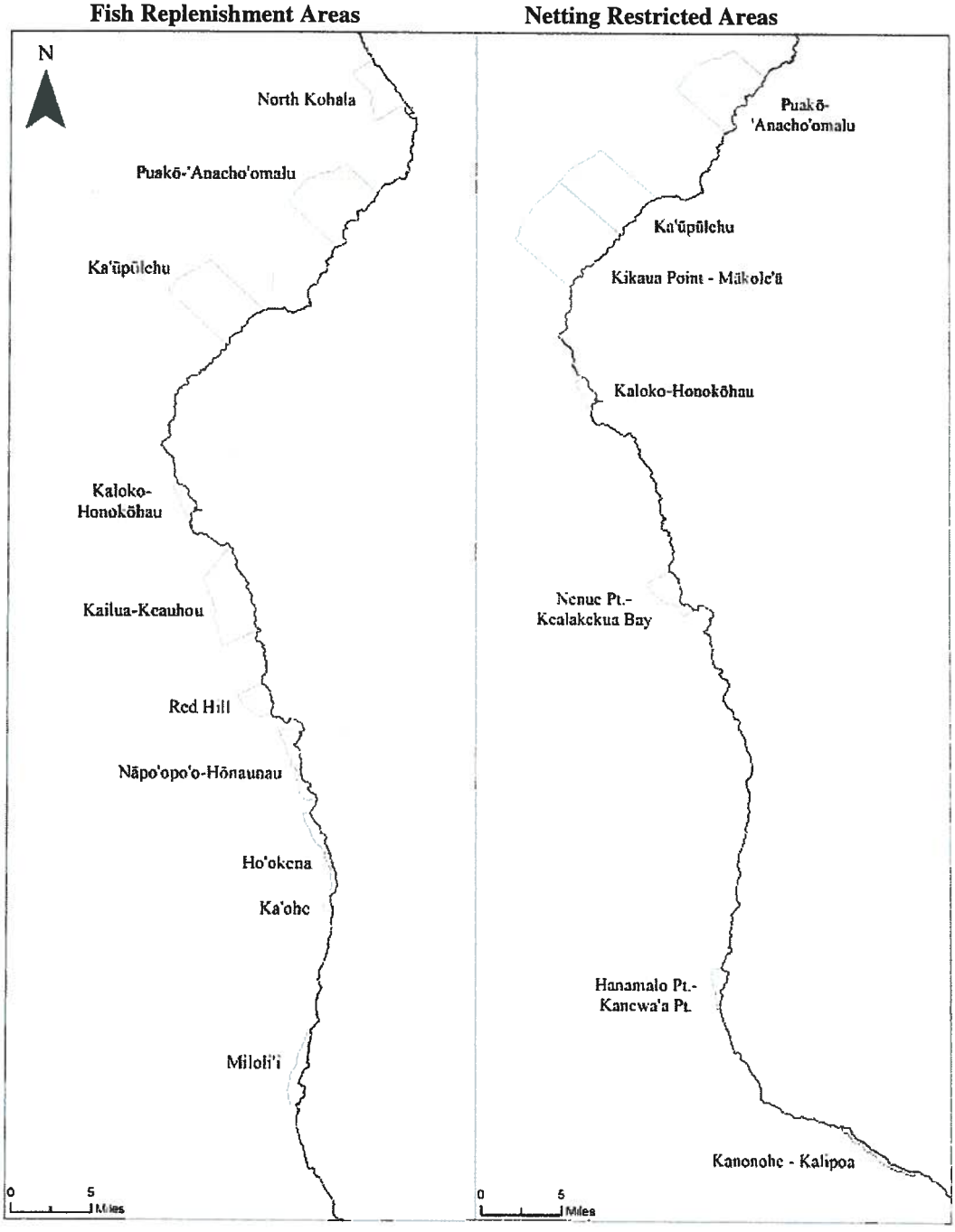
I certify that the foregoing are copies of the rules, drafted in the Ramseyer format pursuant to the requirements of section 91-4.1, Hawaii Revised Statutes, which were adopted on _____, and filed with the Office of the Lieutenant Governor.

_____
SUZANNE D. CASE
Chairperson
Board of Land and Natural Resources

APPROVED AS TO FORM:

_____
Deputy Attorney General

Map of Marine Reserve, Fish Replenishment Area, and Netting Restricted Area Boundaries* (12/12/12)



*Maps and tables do not reflect regulated areas and their specific prohibitions (including gear restrictions) that are defined in other chapters, as described in section 13-60.4-5(c)

Table of Reference Coordinates to Marine Reserve and Fish Replenishment Area Boundaries
(12/12/12)

Area	Landward dGPS Coordinates		Seaward dGPS Coordinates (600 ft.)				
	Northern Point	Southern Point	Northern Point	D (nm)	Southern Point	D (nm)	@
North Kohala FRA	20° 04.826' N	20° 02.471' N	20° 04.378' N	1.40	20° 01.654' N	1.94	225°
	155° 51.934' W	155° 49.988' W	155° 53.344' W		155° 51.875' W		225°
Puakō – 'Anaeho'omalu FRA	19° 57.529' N	19° 54.641' N	19° 59.206' N	2.40	19° 57.034' N	3.54	300°
	155° 51.553' W	155° 53.893' W	155° 53.383' W		155° 56.658' W		300°
Ka'ūpūlehu Marine Reserve	19° 51.011' N	19° 49.209' N	19° 53.817' N	3.91	19° 51.724' N	4.39	300°
	155° 58.111' W	156° 00.132' W	156° 00.994' W		156° 03.947' W		300°
Kaloko – Honokōhau FRA	19° 41.442' N	19° 40.059' N	19° 41.368' N	0.35	19° 39.844' N	0.46	240°
	156° 02.350' W	156° 01.741' W	156° 03.031' W		156° 02.169' W		240°
Kailua – Keauhou FRA	19° 37.903' N	19° 33.716' N	19° 37.089' N	2.02	19° 32.801' N	2.21	245°
	155° 59.472' W	155° 57.829'W	156° 01.449' W		156° 00.004' W		245°
Red Hill FRA	19° 30.823' N	19° 29.252' N	19° 30.166' N	1.41	19° 28.991' N	0.51	235°
	155° 57.630' W	155° 57.068' W	155° 58.953' W		155° 57.536' W		235°
Nāpo'opo'o – Hōnaunau FRA	19° 28.230' N [1]	19° 24.559' N	19° 28.350' N [2]	1.13	19° 24.725' N	0.79	270°
	155° 55.370' W	155° 54.343' W	155° 56.898' W		155° 55.162' W		270°
Ho'okena FRA	19° 23.796' N	19° 19.458' N	19° 23.690' N	0.40	19° 19.403' N	0.25	240°
	155° 54.685' W	155° 53.426' W	155° 55.095' W		155° 53.688' W		240°
Ka'ohe FRA	19° 18.954' N	19° 18.714' N	19° 18.947' N	0.44	19° 18.706' N	0.48	270°
	155° 53.362' W	155° 53.296' W	155° 53.824' W		155° 53.806 W		270°
Miloli'i FRA	19° 12.179' N	19° 08.098' N	19° 12.179' N	0.15	19° 08.160' N	0.36	270°
	155° 54.369' W	155° 55.132' W	155° 54.599'W		155° 55.510' W		270°

[1,2] Northern Boundary runs 0.25nm along existing Kealakekua Bay MLCD southern boundary to 19° 28.443' N/155° 55.708' W and then 270° to seaward northern point.

FRA = Fish Replenishment Area
D (nm) = distance in nautical miles from the landward points to the seaward points
@ = compass heading from landward coordinates to seaward coordinates

Table of Reference Coordinates to Netting Restricted Area Boundaries
(12/12/12)

Netting Restricted Area**	Landward dGPS Coordinates		Seaward dGPS Coordinates (600 ft.)				
	Northern Point	Southern Point	Northern Point	D (nm)	Southern Point	D (nm)	@
Puakō - ʻAnaehoʻomalu	19° 57.529' N	19° 54.641' N	19° 59.206' N	2.40	19° 57.034' N	3.54	300°
	155° 51.553' W	155° 53.893' W	155° 53.383' W		155° 56.658' W		300°
Kaʻūpūlehu	19° 51.011' N	19° 49.209' N	19° 53.817' N	3.91	19° 51.724' N	4.39	300°
	155° 58.111' W	156° 00.132' W	156° 00.994' W		156° 03.947' W		300°
Kikaua Point - Mākoleʻā	19° 49.130' N	19° 46.356' N	19° 52.100' N	4.41	19° 49.000' N	3.98	300°
	156° 00.063' W	156° 03.024' W	156° 03.566' W		156° 06.164' W		300°
Kaloko - Honokōhau	19° 41.442' N	19° 40.059' N	19° 41.368' N	0.35	19° 39.844' N	0.46	240°
	156° 02.350' W	156° 01.741' W	156° 03.031' W		156° 02.169' W		240°
Nenue Pt. - Kealakekua Bay	19° 30.823' N	19° 28.699' N	19° 30.166' N	1.41	19° 28.316' N	0.90	235°
	155° 57.630' W	155° 56.114' W	155° 58.953' W		155° 56.983' W		235°
Hanamalo Pt. - Kanewaʻa Pt.	19° 09.273' N	19° 07.091' N	19° 09.275' N	0.55	19° 07.093' N	0.18	260°
	155° 54.973' W	155° 55.115' W	155° 55.564' W		155° 55.313' W		260°
Kanonone - Kalīpoa	19° 00.662' N	18° 58.180' N	19° 00.409' N	0.25	18° 57.941' N	0.24	200°
	155° 48.302' W	155° 44.182' W	155° 48.302' W		155° 44.183' W		200°

****Netting restrictions may also apply in marine reserves and fish replenishment areas (see map entitled "Map of Marine Reserve, Fish Replenishment, and Netting Restricted Area Boundaries", dated 12/12/12) and in areas designated under separate chapters, as described in section 13-60.4-2(c)**

D (nm) = distance in nautical miles from the landward points to the seaward points
@ = compass heading from landward coordinates to seaward coordinates